California and Climate Change

Hydropower System Workshop
Integrated Energy Policy Report
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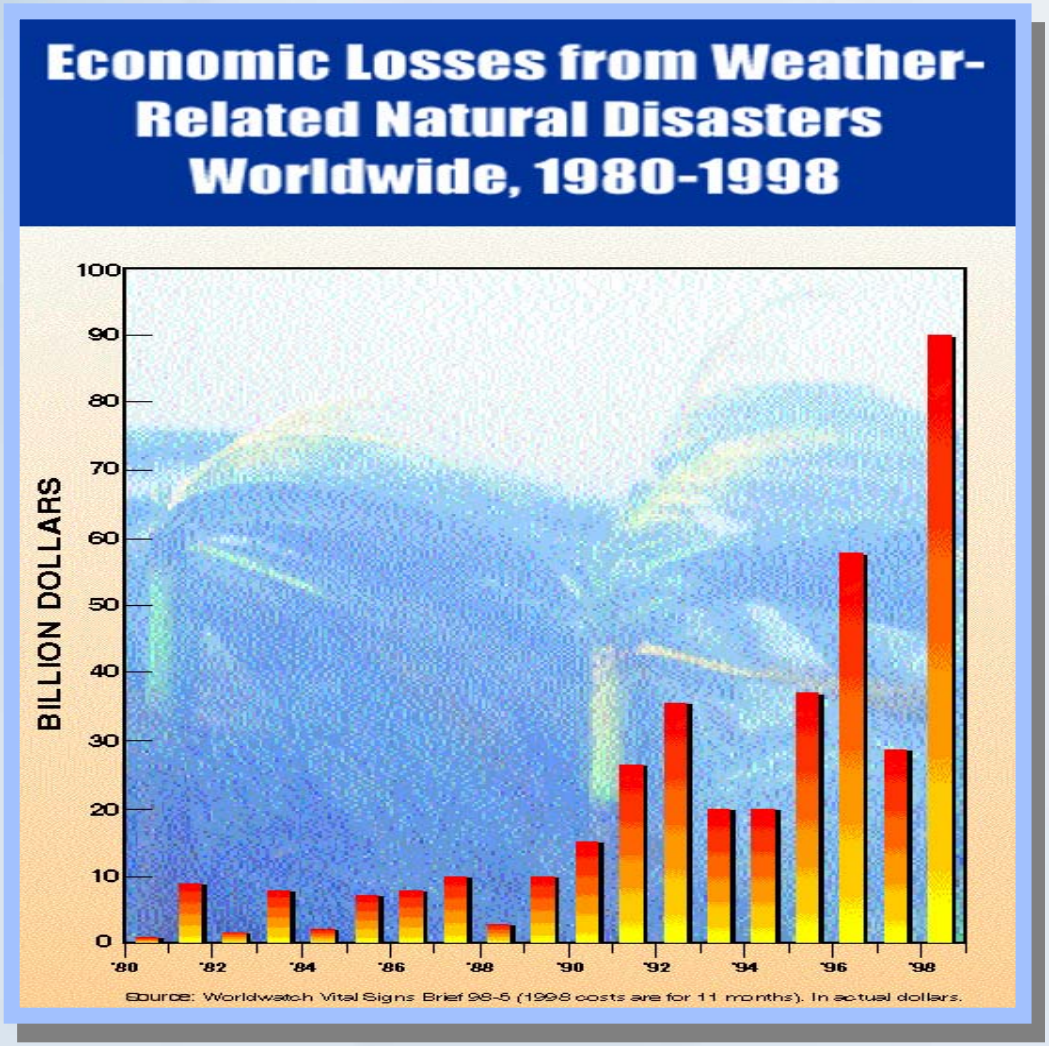
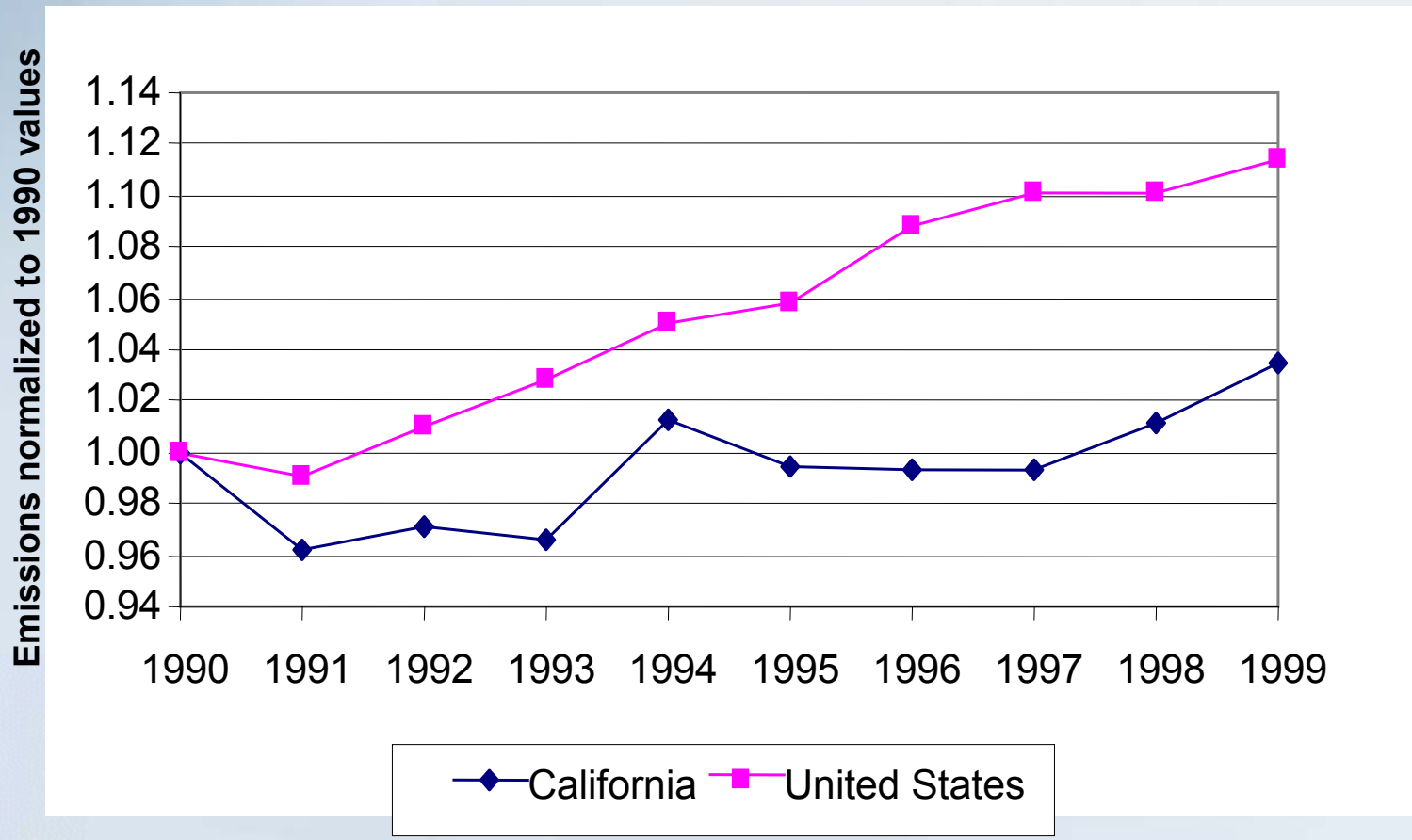
California Greenhouse Gases

- 1.4% of world GHGs and 0.6% world pop.
- 6.2% of US emissions and 12% US pop.
- CA emissions rising slowly through 1990s
- Global emissions rising much faster
- Is California getting ready for climate change?

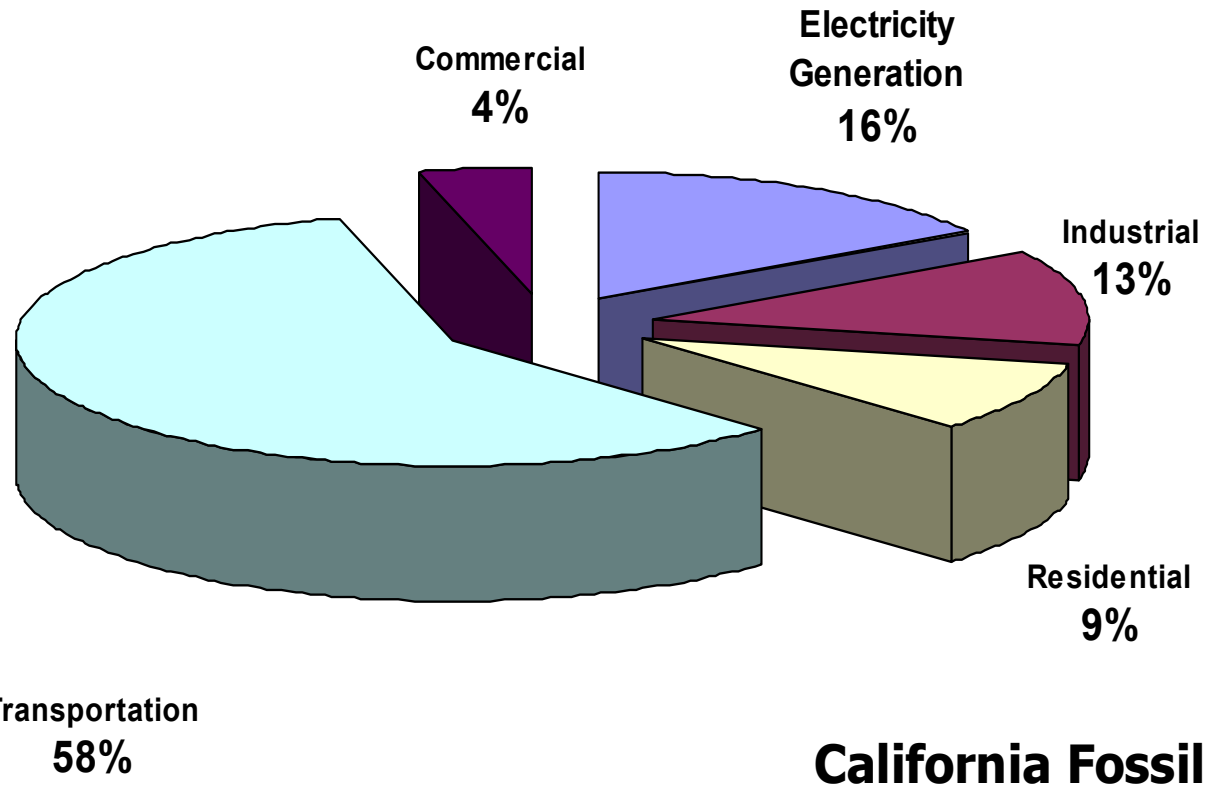
Extreme Weather Events Are Increasing



1990-1999 U.S. and California Trends in GHG Emissions



Transportation is California's Largest Source of CO_2



California Fossil Fuel CO_2 Emission Sources, 1999

Source: California Energy Commission, November 2002

California Legislation on GHGs & Climate Change

- AB 4420 (1988) – Study effects of GHGs
- SB 1771 (2000) -- GHG Registry & Inventory
- AB 2076 (2000) – Petroleum Dependence
- SB 527 (2001) – Calif. Climate Registry
- AB 1493 (2002) – Vehicular GHGs
- SB 812 (2002) – Sequestration of CO2
- SB 1078 (2002) – Renewables Standard

Created a Multi-Agency Climate Change Team

- CA Energy Commission
- CA Air Resources Board
- Dept. of Water Resources
- Dept. of Transportation
- Dept. of Forestry and Fire Protection
- Dept. of Food and Agriculture
- Integrated Waste Management Board
- Dept. of Fish and Game
- State Water Resources Control Board
- Dept. of General Services
- Technology Trade and Commerce Agency
- Office of Planning and Research

Enhance Water Management Planning Capacity

Determine impacts on water supply and flood control

- Evaluate reservoirs for water supply and flood control in view of climate change
- Adapt water system operation models to differing future climate scenarios
- Develop more detailed hydrology and operational studies of whole Central Valley

Evaluate alternative options for water management

- Evaluate ways to improve water supply & quality, reduce demands, adapt to sea levels
- Build more flexibility into both physical systems and institutional mechanisms
- Focus on regions dependent on imported supplies
- Evaluate regional economic impacts and changes to agriculture

Better Hydrologic and Environmental Data

- Improve precipitation & other climate data, stream flow, snowpack, ocean and Delta water levels
- Design water quality sampling network to look at hydrological changes expected from climate change
- Monitor levels in SF Bay & Delta, and other coastal locations with precise measurements from tide gages
- Collect, prepare, and maintain records from existing stations, update and share new depth-duration-frequency data
- Upgrade supply forecasting with the new hydrologic information
- Enhance land use and vegetation monitoring within the state

Update to State Water Plan

The update to the State Water Plan will contain a discussion of climate change!

Visit DWR's Web Site –

http://www.waterplan.water.ca.gov/b160/indexb160.html